

Seaweeds of the western coast of tropical Africa and adjacent islands: a critical assessment. IV. Rhodophyta (Florideae) 5. Genera P

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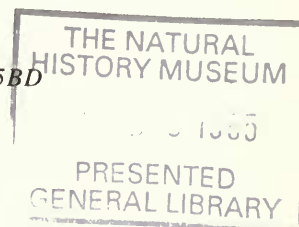
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CONTENTS

Introduction	99
Species list	100
Numerical list of references	115
References	117

SYNOPSIS. This paper assembles and, so far as is possible without extended field and herbarium studies, examines critically the validity of records of marine and brackish-water Rhodophyta (Florideae) for the western coast of tropical Africa. The mainland coastline from the northern boundary of Western Sahara southwards to the southern boundary of Namibia, the oceanic islands from the Salvage Islands southwards to Ascension and St Helena, and all islands close to the African mainland coast are included in the area covered. Each species entry includes all traced records, the names which have previously been applied to it for the area, and additional comments or evaluation, as necessary.

INTRODUCTION

The area dealt with in this part is identical with that covered in parts published previously (Lawson & Price, 1969; John, Lawson, Price, Prud'homme van Reine & Woelkerling, 1994; Price, John & Lawson, 1978, 1986, 1988, 1992; John, Price, Maggs & Lawson, 1979). Country names employed and their earlier equivalents, and the names of island groups included, are listed in the legend for the map in Fig. 1. Genera with the initial letter P and constituent species are listed in alphabetical order.

Each main species entry consists of:

- (i) **The major bold heading**, representing the currently accepted name and authorities.
- (ii) **Subsidiary italicized headings at intervals within the entry.**

These are in square brackets and essentially subdivide the overall entry. They represent the different ways in which the species has been referred to in literature for the area. Incorrect citations have been maintained in these subsidiary headings so that there shall be no doubt as to which record we attribute to which taxon; only when clarification was required have changes been made in subhead citation, in which case an explanation is given in intermediary or terminal notes.

(iii) **The distributional data**, with countries and island groups arranged in alphabetical order. More generalized statements of distribution follow the specific country list. Complete distribution patterns require a scan of records under all names by which a species is known for this or adjacent areas. Hence, generalized distribution statements are included verbatim since it is not always clear for precisely which countries within the area they establish records. In all these cases,

numbers within parentheses after the names refer to corresponding numbers in the references. A question mark following the number indicates that doubt is attached to the record. In the present reference list, for agreement with previous parts, references have not been renumbered but simply omitted or added and additionally numbered as appropriate for the present part. Reference numbers are therefore only partially interchangeable between different parts of the overall list. Presentation of the references follows that from the previous part in having first a numerical sequence giving only authors and dates, followed by a separate listing of the full references in alphabetical order. 'References' also include manuscript and expeditionary sources, as well as works currently in press.

(iv) **Additional qualifying notes**, were required in many cases. These notes appear below whole entries or individual parts of entries to which they specifically refer. References in the notes are cited by the reference number (see pp. 115–116) when they contain species records, and by authors' name and publication date when they do not.

Species nomenclature has been revised as far as possible and the complete author citation is given for each currently accepted combination. The subsidiary italicized headings and any other discarded combinations that require reference are included as cross-referencing entries to the currently accepted names in the overall list. The necessarily preliminary nature of this treatment has been emphasized for each previously-published part and applies no less here. Critical updating of the overall text is kept firmly in mind for the whole work. We would appreciate notification of any detected errors and omissions from any of the parts.

SPECIES LIST

Pachymenia carnosa (J. Agardh) J. Agardh
Angola (312A).
Namibia (36B;312A;348;523;525).
[As *Pachymenia carnosa* J. Ag.]
Namibia (166;500).

Pachymenia cornea (Kützing) Chiang
Namibia (525).

Palmaria palmata (Linnaeus) O. Kuntze
?Ghana (350;586).
[As *Fucus sibiliferus* fl. dan. cum varietatibus]
Ghana (271?).

Note. It is most unlikely that this nomenclatural equivalence represents the presence of the cold water species *Palmaria palmata* in the Gulf of Guinea. Clarification of the record would require examination of material from the original collection which may be in Copenhagen (C: University Herbarium), but it is possible (see Lawson & John, 1982) that the Isert specimens from 'Danish Guinea' (now Ghana), on which Hornemann's (271) record is based, may have been lost when part of the collection was destroyed by fire in 1807.

Paragoniolithon Adey, Townsend & Boykins
See notes to *Spongites*.

Petrocelis cruenta J. Agardh
See the note under *Mastocarpus stellatus* (Stackhouse) Guiry.

Peyssonnelia armorica (P. & H. Crouan) Weber-van Bosse
Canaries (568).

[As *Cruoriella armorica* P. & H. Crouan]
Canaries (13;108;113;130;227).

[As *Cruoriopsis rosenvingii* Børgesen]
Canaries (70;188;191;375).

Note. See the entry for *Cruoriopsis* sp.

Peyssonnelia capensis Montagne
Angola (98;108;130;352;393;394;424;426;427).

Note. For comments on this species see (431), (434), and (693).
Palminha (426) attributes the existence in Angola of this hitherto South African form to its being carried northwards by the Benguela Current. According to Cordeiro-Marino (108), this taxon is well-characterized as to thallus structure and location/form of calcareous glomeruli. It has been compared by many authors to *P. squamaria* (S.G. Gmelin) Decaisne which entirely lacks glomeruli. Womersley (712) states that specimens from tropical-subtropical waters that lack cystoliths are doubtfully attributable to *P. capensis*, and are more similar to *P. squamaria*.

Peyssonnelia coriacea J. Feldmann
'... norte de Africa' (517).

Note. This probably relates only to Mediterranean Africa or Morocco. See also (130).

Peyssonnelia dubyi P. & H. Crouan
Canaries (598;633;667).
Cape Verde Islands (38;38D;145;259;273;598;713).
Salvage Islands (38B;38D;375).

Note. In view of the misidentifications of *Petrocelis cruenta* J. Agardh from Portugal under this name, it is possible that similar confusion existed in the establishment of these records (see 33).

Peyssonnelia harveyana J. Agardh
Canaries (598;664).

[As *P. harveyana* Crouan]
Angola (41;42;500).
Cape Verde Islands (41;42;683).
[As *P. cf. harveyana* Crouan]
Cape Verde Islands (652;713).

Note. See Marcot & Boudouresque (1976) for further information on the type specimen collected by the Crouan brothers.

Peyssonnelia inamoena Pilger
Angola (352).
Cameroun (139;350;454;500;561;586).

Canaries (598;633;634;635;666;667).
Ghana (299;300;350;376;377;586).

Príncipe (350;586).

Sénégal (38D;59).

'Atlantique africain intertropical sous ses forme typique' (130).

'... atlantique tropicale' (59).

'From the Cameroons' (561).

'... Golfo da Guiné' (108).

'in warm temperate and tropical seas' (350;586;642;712).

'Macaronesia' (653).

'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).

'Tropical Africa (N. Gambia – Congo river)' (598).

[As *Peyssonnelia rubra* J. Agardh]
Príncipe (41;42;535).

Note. According to Womersley (712), the type (454: 311) is from Gross-Batanga, Cameroons, West Africa. There is some doubt as to whether *Peyssonnelia inamoena* and *P. rubra* (Greville) J. Agardh are separate entities. Denizot (130) in his monograph on the non-coraline encrusting red algae states: 'La distinction entre cette

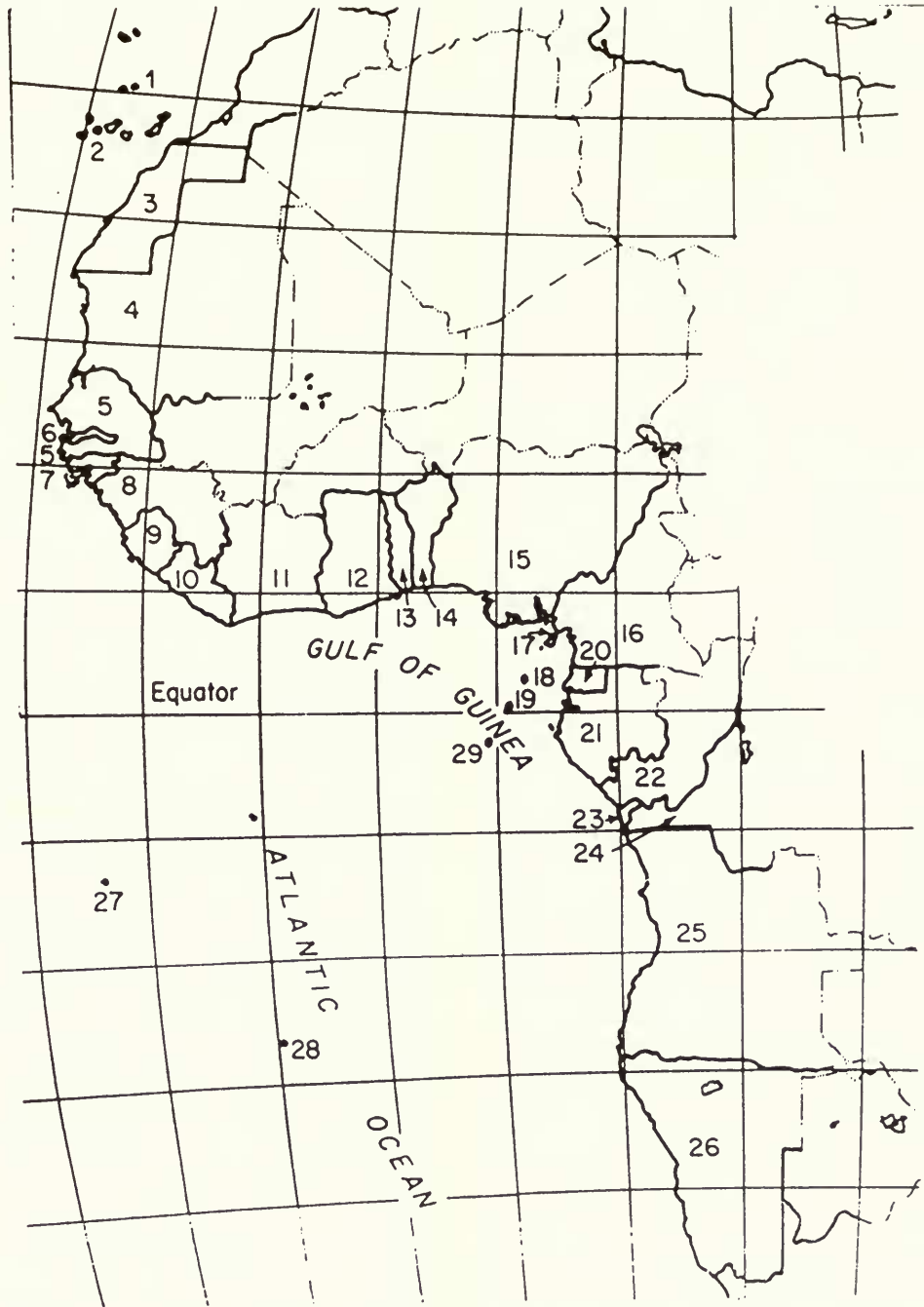


Fig. 1 The coastline of tropical West Africa and the offshore islands.

1, Salvage Islands; 2, Canary Islands; 3, Western Sahara [=former Spanish Sahara, Spanish West Africa] (includes the often quoted Rio de Oro, the southern region of the country, but excludes Ifni); 4, Mauritanie; 5, Sénégal; 6, Gambia; 7, Guinea-Bissau [=Portuguese Guinea]; 8, Guinée; 9, Sierra Leone; 10, Liberia; 11, Côte d'Ivoire; 12, Ghana; 13, Togo; 14, Benin [=Dahomey]; 15, Nigeria; 16, Cameroun; 17,* Bioko [=Macias Nguema Biyogo, Fernando Póo]; 18, Príncipe; 19, São Tomé; 20,* Equatorial Guinea [=Spanish Guinea]; 21, Gabon; 22,** Republic of the Congo; 23, Cabinda; 24, Zaire [=Congo Republic]; 25, Angola; 26, Namibia [=South West Africa]; 27, Ascension Island; 28, Saint Helena; 29, Pagalu [=Annobón]. The Cape Verde Islands, which lie immediately to the west of Dakar (Sénégal), have been omitted from this map but are included in the species list that follows.

* Nos 17 (Bioko) and 20 (Spanish Guinea, = Rio Muni) are now jointly administered as Equatorial Guinea. Bioko is entered separately, where appropriate, in the species list.

** Loango, a name much used by earlier collectors such as Welwitsch, was formerly a coastal region of West Africa. Its application appears to have included much of the coastline of the Republic of the Congo (22), as well as of Cabinda (23) and Zaire (24). Because by far the longest and rockiest part of the Loango coast lies now within the Republic of the Congo we have attributed all marine algal records from Loango to the Congo.

espèce et *P. rubra*, la forme la plus voisine, est à peu près exclusivement fondée sur l'absence de cystolithes'. See also Schneider & Searles (642) for a discussion of these two species in the western Atlantic. A number of collections examined from West Africa have proved to be not *P. rubra* as reported but *P. inamoena* (e.g., Welwitsch Herb. Angolense No. 123 Loanda [Angola] with male organs, No. 233 S. Vincenti, No. 256 Príncipe).

Peyssonnelia magna Ercegovic
Cape Verde Islands (652;713).

Peyssonnelia polymorpha (Zanardini) Schmitz
Canaries (13;70;177;188;191;227;379;584;598;694).

Cape Verde Islands (652;713).

Côte d'Ivoire (350;586).

Sierra Leone (295?;350;586).

'... Atlantique (. . . Canaries. . .)' (33).

'... in warm temperate and tropical seas, probably widespread' (350;586).

'Tropical Africa (N. Gambia – Congo river)' (598).

Peyssonnelia rosa-marina Boudouresque & Denizot
Cape Verde Islands (652;683;713).

Peyssonnelia rosenvingii Schmitz
?Sierra Leone (30;350;586).

Note. This single record from West Africa is regarded as very doubtful by (350) and (586).

Peyssonnelia rubra (Greville) J. Agardh
Angola (500;535).

Canaries (38D;70;77;191;226;227;390;392;448;535;584;598;663).

Cape Verde Islands (535;652;683;713).

Príncipe (535).

Sénégal (535?).

'... Atlantic Ocean (European, African and American coasts, Canary Islands. . .)' (177).

'Probably in most warmer seas. . . ' (535).

'... Sans doute répandu dans toutes les mers chaudes' (188).

'... Temperate and subtropical shores of the Atlantic.

Probably in all warmer seas of the world' (375).

[As *Peyssonnelia rubra* J. Agardh]

Angola (41;42).

Canaries (89).

Cape Verde Islands (41;42).

Príncipe (41;42).

[As *Peyssonnelia rubra* Greville]

Canaries (493).

Note. See comments under *Peyssonnelia inamoena* Pilger.

Peyssonnelia squamaria (S.G. Gmelin) Decaisne

'... Atlantic Ocean (European and African coasts, Canary Islands). . . ' (177).

'Nordwestafrika' (499).

'... Wärmere Teile des Atlantischen Ozeans. . . ' (499).

Note. See comments under *Peyssonnelia capensis* Montagne.

Peyssonnelia spp.

Angola (352).

Ascension (37).

Canaries (128A;303;306B).

Gabon (294).

Ghana (299;376;377).

Liberia (129).

Sénégal (529;531).

Note. Two species reported (294) for Gabon: sp. A, a sterile crust of assurgent and dichotomously divided filaments arising from an

ill-defined hypothallus; sp. B, a sterile crust with a two-layered hypothallus of subquadrate cells bearing dichotomously divided rows of cells. Sourie (529) noted that there were perhaps two, neither common, species of *Peyssonnelia* amongst his Sénégal collections, one encrusting, the other foliaceous.

Phlebothamnium ellipticum (Montagne) Kützing
See *Callithamnium ellipticum* Montagne.

Phycophora triangulans (Turner) Kützing
See *Bryothamnion triquetrum* (Gmelin) Howe.

Phyllophora gelidioides P. & H. Crouan ex Karsakoff
Canaries (70;71;139;191;227;490;540;547;598;635;709).
'Endemic for Canaries' (653).

Phyllophora palmettoides var. *nicaeensis* J. Agardh
See *Schottera nicaeensis* (Lamouroux ex Duby) Guiry & Hollenberg.

Phyllophora sp.
Sénégal (282).

Note. See *Cryptonemia seminervis* (C. Agardh) J. Agardh. Jardin (282) stated: 'espèce sans doute nouvelle', and later (283: 205) 'Aux algues que j'ai indiquées dans mes *Herborisations sur la côte occidentale d'Afrique*, pour la Sénégal il faut ajouter le *Cryptonemia luxurians* J. Ag., que j'avais inscrite sans le nom de *Phyllophora* et qui vient d'être déterminée par le savant algologue G. Lespinasse, de Bordeaux'.

Phyllymenia belangeri (Bory) Setchel & Gardner
Namibia (36B;348).

Note. See also (102) and (570) for names under which this alga has been recorded in South Africa.

Phymatolithon Foslie, nom. cons.

The concept of *Phymatolithon* adopted here follows Woelkerling (1988: 197–203). Historical data on the genus are summarized by Woelkerling & Irvine (1986) and Woelkerling (1988). The relationships of *Phymatolithon* and *Leptophytum*, a genus of uncertain status (Woelkerling, 1988: 217–281; Wilks & Woelkerling, 1994: 199–201), require brief comment. Some authors (Chamberlain, 1990; Chamberlain & Irvine, 1994 [701]: 166; Chamberlain & Keats, 1994) maintain two genera even though the type specimen of *Leptophytum* is missing and thus the name lacks the nomenclatural foundation necessary for stability. Several sets of criteria have been used to separate the two genera, but Wilks & Woelkerling (1994: 199–201) concluded that none of the proposed features could be used reliably for delimiting two such genera.

Phymatolithon bisporum (Foslie) Afonso-Carrillo
Canaries (11;18;582;598;633;634;700).

Cape Verde Islands (598).

'... Lacia el sur tienen su limite en el Golfo di Guinea' (582).

'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).

'Macaronesia s.s.' (653).

[As *Leptophytum bisporum* (Foslie) Adey]

Canaries (6;70;139;205;212;227;248;363;366;387;493).

Cape Verde Islands (366).

Mauritania (349;366).

Sénégal (248;366).

[As *Lithophyllum bisporum* Foslie]

Canaries (191).

Note. This species originally was described as *Lithothamnion bisporum* Foslie (205: 18), based on material from Puerto Orotava, Tenerife, Canary Islands. According to Woelkerling (700: 39), only tiny fragments of the holotype remain in TRH. There has been no

detailed study of the holotype in a modern context, and thus the status and disposition of the species are uncertain, as are records from the West African region.

Phymatolithon calcareum (Pallas) Adey & McKibbin

Ascension (474).
Canaries (227;582;584;598).
Mauritanie (349).

[As *Lithothamnium calcareum* (Pallas) Areschoug]

Canaries (188;191;226;359;362;363;365;375).

Mauritanie (70;188;356;359;360;361;363)

[As *Lithothamnium crassum* Philippi]

Canaries (547).

[As *Lithothamnium calcareum* f. *crassa* (Philippi) Lemoine]

Canaries (363).

[As *Lithophyllum calcareum* (Pallas) Areschoug]

Canaries (229).

Note. *Phymatolithon calcareum* is the type species of *Phymatolithon*. Woelkerling & Irvine (1986) neotypified the species with material from Falmouth Harbour, England and provided a detailed account of the collection; the neotype is in BM. Chamberlain & Irvine (701: 212) present further information on the species in Europe, and they list the distribution as Norway to N. Spain, W. Baltic and the Mediterranean but not the West African region. Consequently, all specimens on which published records from the West African region are based need to be checked to determine whether they are conspecific with *P. calcareum*. *Lithothamnium calcareum* f. *crassa* (Philippi) Lemoine is based on *Lithothamnium crassum* Philippi, the type of which (see 206: 180–184) belongs to *Lithophyllum*, and John et al. (1994: 61) have noted that *Lithophyllum duckerii* Woelkerling is a nom. nov. for *L. crassum* Philippi. The specimens upon which Lemoine's (362) report is based need to be re-examined to determine the taxon to which they belong.

Phymatolithon lenormandii (Areschoug) Adey

Canaries (227;582;598;633;634;649;701).

Cape Verde Islands (713).

[As *Lithothamnium lenormandii* (Areschoug) Foslie]

Canaries (6;70;188;191;202;353;356;359;362;363;493;499).

[As *Lithothamnium lenormandi* (Areschoug) Foslie f. *squamulosa* (Foslie) Foslie]

Canaries (499).

[As *Lithothamnium lenormandi* (Areschoug) Foslie f. *sublaevis* Foslie]

Canaries (70;363).

[As *Lithothamnium lenormandi* Foslie]

Canaries (109).

Note. This species, originally described as *Melobesia lenormandii* Areschoug (1852: 514), is based on material from Arronanches, France, and was lectotypified by Woelkerling (1988: 219). Chamberlain & Irvine (701: 224–230), who have seen the lectotype (in LD), provide a detailed account of the species in the British Isles, noting that it is highly variable. The species is recorded from a number of parts of the world (701: 227), but most records, including those from the West African region, need to be verified. Data on the types of *Lithothamnium lenormandi* f. *squamulosa* (Foslie) Foslie [basonym: *Lithothamnium squamulosum* Foslie (1895: 183)] and *Lithothamnium lenormandi* f. *sublaevis* Foslie (1895: 179) are provided by Woelkerling (700: 206, 211); neither has been examined in a modern context, and thus the status and disposition of both and their relationships to *Phymatolithon lenormandii* f. *lenormandii* are uncertain.

Phymatolithon polymorphum (Linnaeus) Foslie

See *Phymatolithon purpureum* (P. & H. Crouan) Woelkerling & Irvine.

Phymatolithon polymorphum f. *sublaevis* Foslie

Angola (541).

Note. According to Woelkerling (700: 211), *Phymatolithon polymorphum* f. *sublaevis* is a superfluous name for *P. polymorphum* f. *papillata* Foslie (1895: 115). The lectotype of *P. polymorphum* f. *papillata*, designated by Woelkerling (700: 168) and housed in TRH, has not been examined in detail in a modern context. Thus the status and disposition of the taxon is uncertain, as is the record from Angola.

Phymatolithon purpureum (P. & H. Crouan) Woelkerling & Irvine

[As *Phymatolithon polymorphum* (Linnaeus) Foslie]

Cape Verde Islands (541;598).

[As *Lithothamnium polymorphum* (Linnaeus) Areschoug]

Cape Verde Islands (366).

[As *Lithothamnium polymorphum* Areschoug]

Cape Verde Islands (38).

[As *Lithothamnium polymorphum* Linnaeus]

Cape Verde Islands (145).

Note. This species was originally described as *Lithothamnium purpureum* P. & H. Crouan (1867: 150), based on material from Brest, France, and was lectotypified by Woelkerling & Irvine (1986: 71). The lectotype is housed in CO. Chamberlain & Irvine (701: 230–234) provide a detailed account of the species in the British Isles and indicate that it occurs from Arctic Russia to Morocco, Iceland, the Faroes and the western Baltic; no mention is made of tropical West Africa. Misapplication of the specific epithet *polymorphum* for material referable to *purpureum* is discussed by Woelkerling & Irvine (1986: 68–69). All specimens on which published records from the West African region are based need to be checked to determine whether they are conspecific with *Phymatolithon purpureum*. According to Lemoine (366), the specimens that Dickie identified from Moseley's São Vicente (Cape Verde Islands) collections are *Lithophyllum africanum* (= *Spongites africanum* (Foslie) Afonso-Carrillo).

Phymatolithon tenuissimum (Foslie) Adey

Canaries (227;582;598).

São Tomé (350;586).

'Gulf of Guinea' (582).

'... in warm temperate and tropical parts of the eastern Atlantic Ocean' (350;586).

'... Morocco, West Africa, Canary Islands' (642).

'... Tropical Africa (N. Gambia – Congo river)' (598).

[As *Lithothamnium tenuissimum* Foslie]

Canaries (70;188;191;362;363;535;650).

Mauritanie (359).

São Tomé (6;134;188;198;212;359;362;535;650;700).

'Golfe de Guinée: São Tomé' (70).

Note. This species was originally described as *Lithothamnium tenuissimum* Foslie (198: 20), based on material from São Tomé. The holotype in TRH (see 700: 222; 535: 130) has not been examined in detail in a modern context, and thus the status and disposition of the species are uncertain, as are all records from the West African region. Foslie (696: 5) questioned whether *Lithothamnium californicum* Foslie was specifically distinct from *Phymatolithon tenuissimum*, but without a comparative study of the relevant types, the question cannot be resolved.

Phymatolithon sp.

Canaries (478).

Platoma bairdii (Farlow) Kuckuck

Canaries (18;598).

Note. According to Afonso-Carrillo et al. (18), their material agreed with the description of Dixon & Irvine (1977): '... La presencia de *P. bairdii* en las Islas Canarias incrementa considerablemente el área de distribución de esta especie'.

Platoma cyclocolpum (Montagne) Schmitz

Canaries (708).

[As *Platoma cyclocolpa* (Montagne) Schmitz]

Canaries (17;30;34;70;128A;134;226;227;232B;315;329;375;379;390;584;598;633;634;635).

Sierra Leone (30?,350,586).

[As *Platoma cyclocolpa* Schmitz]

Canaries (191;375;489;556).

Salvage Islands (38B;556).

‘. . . im wämeren atlantischen Ocean’ (511).

[As *Halymenia cyclocolpa* Montagne]

Canaries (44;318;401;402;403;407).

[As *Nemastoma (Platoma) multifida* (J. Agardh) J. Agardh]

Canaries (24).

[As *Nemastoma multifida* J. Agardh]

‘Tropical Atlantic’ (410).

Note. Lawson & John (350, 586) commented that Aleem’s (30) drift record from Sierra Leone is doubtful for a plant not previously recorded from the mainland coast of West Africa.

Platoma marginiferum (J. Agardh) Batters

Canaries (635).

Note. According to Masuda & Guiry (1995), the correct name for this taxon is *Itonoa marginifera* (J. Agardh) Masuda & Guiry.

Platysiphonia Børgesen

For comparative comments on the genus see Ballantine & Wynne (159A).

Platysiphonia caribaea Ballantine & Wynne

Canaries (646).

Platysiphonia delicatula (Clemente) Cremades

Canaries (634;635).

Cape Verde Islands (652;713).

[As *Platysiphonia miniata* (C. Agardh) Børgesen]

Canaries (38C;598;646).

Cape Verde Islands (598;639;683).

Côte d’Ivoire (287;288;350;586).

Ghana (287;292;299;350;375;586).

Mauritanie (38C;349;556).

Namibia (348).

Salvage Islands (38B;556).

‘. . . widespread in warm temperate and tropical seas’ (350;586).

‘. . . widely distributed . . . reported from . . . western and southern Africa. . .’ (159A).

[As *Sarcomenia miniata* C. Agardh]

Canaries (547).

Platysiphonia intermedia (Grunow) Silva & ClearySee *Sarcomedia intermedia* Grunow.**Platythamnion plumula** (Ellis) Boudouresque et al.

See *Pterothamnion plumula* (Ellis) Nägeli and the note to *Antithamnion plumula* (Ellis) Thuret.

Pleonosporium borneri (J.R. Smith) Nägeli

Canaries (633;634;663;665;667).

Mauritanie (624).

Salvage Islands (38B;38C;556;598).

‘. . . Atlantique, du Maroc a l’Angleterre. . .’ (196).

‘. . . Atlantique (de l’Angleterre au Maroc)’ (33).

‘. . . vonden englich-französischen Küste. . .’ (497;499).

‘Subtropical Africa [Sénégal (N. of Gambia); Mauritania, former W. Sahara]’ (598).

‘Tropical Africa (N. Gambia – Congo river)’ (598).

Pleonosporium caribaeum (Børgesen) R. Norris[As *Mesothamnion caribaeum* Børgesen]

Canaries (13;227;598;633;634).

Pleonosporium harveyanum (J. Agardh) De Toni

Namibia (348).

Pleonosporium sp.

Angola (352).

Note. Tentative determination based on vegetative material only.

Plocamium Lamouroux

Considerable pertinent information on the genus in South Africa is presented by Simons (519). Not all the South African species treated are relevant here but there is a substantial floristic overlap and the individual species entries include some records for Namibia.

Plocamium beckeri Simons

Angola (298;352;487;524;707).

Plocamium biserratum DickieSee *Plocamium concinnum* Areschoug.**Plocamium cartilagineum** (Linnaeus) Dixon

Canaries (13;38B;38D;227;253;306B;392;583;584;598;633;634;635;648;662;663;710).

Cape Verde Islands (38B;38D).

Mauritanie (38B;38D;349;624).

Salvage Islands (38B;38D;598).

Sénégal (38B;38D;253;350;586).

Western Sahara (38B;38D;349;598).

‘. . . Atlántico oriental (Noruega – Senegal). . .’ (253).

‘. . . Norway (Nordland) to Sénégal . . . Canary Isles. . .’ (172).

‘Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]’ (598).

‘Tropical Africa (N. Gambia – Congo river)’ (598).

[As *Plocamium coccineum* (Hudson) Lyngbye]

Ascension (37).

Canaries (2;5;70;191;229;252;375;401;499;517).

Cape Verde Islands (239;252).

Mauritanie (252).

Sénégal (55;56;59;99;122;252;350;408;529;586).

‘. . . Atlántico (desde las Faeroes a Canarias)’ (517).

‘. . . Atlantique (de la Norvege a la Mauritanie). . .’ (33).

‘. . . Atlantique nord, jusqu’en Mauritanie. . .’ (222).

‘. . . der Westküste Afrikas und den Atlantischen Inseln. . .’ (239).

‘. . . Faeröes to the Canary Islands. . .’ (70).

‘. . . in oceano Atlantico a littore Faeroearum usque ad insulas Canarias. . .’ (25;132).

‘Nordwestafrika’ (499).

[As *Plocamium coccineum* Lyngbye]

Canaries (44;439;547).

Cape Verde Islands (41;42).

Sénégal (38).

‘. . . Des îles Feroë au Sénégal. . .’ (89).

[As *Plocamium coccineum* (Hudson) Areschoug]

Canaries (141A).

[As *Plocamium vulgare* Lamouroux]

Namibia (348).

Sénégal (99).

Plocamium coccineum auct.See *Plocamium cartilagineum* (Linnaeus) Dixon.

Plocamium concinnum Areschoug

Cape Verde Islands (38;132;141A;191;408;500;597;598;713).

[As *Plocamium biserratum* Dickie]

Cape Verde Islands (27;43;145;652).

Note. Askenasy (38) commented 'Connu seulement des îles du Cap Vert. . . Les descriptions de Dickie et d'Areschoug concordent parfaitement l'une avec l'autre. Le nom de Dickie est très caractéristique pour cette algue'.

Plocamium condensatum KützingSee note under *Plocamium rigidum* Bory.**Plocamium corallorhiza** (Turner) Harvey

Cape Verde Islands (191;405;598).

Namibia (348).

[As *Plocamium corallorhiza* Harvey]

Cape Verde Islands (38).

'... communes aux îles du Cap Vert et à l'Afrique méridionale. . .' (38).

Plocamium cornutum (Turner) Harvey

Namibia (36B;348;523).

[As *Plocamium cornutum* Harvey]

Namibia (167;453).

Note. Simons (519) commented that *P. cornutum* is comparatively easy to recognize because of its crowded pinnae which appear to arise on all sides of the somewhat terete axis which is sparingly branched. He goes on to say 'Occasionally forms approach the habit of *P. rigidum* but generally the latter can be distinguished by their terminal arrangement of pinnae in second groups of three'.

Plocamium froelichian Kützing

'Senegambia' (25;132;296;318;324).

'aus dem tropischen Atlantischen Ocean' (316).

Note. J. Agardh (25) placed this species in 'Species inquirendae' and De Toni (132) in 'Species incertae'.

Plocamium glomeratum J. Agardh

Namibia (36B;348;519).

Plocamium nobile J. AgardhSee comments under *Plocamium suhrii* Kützing and *P. telfairiae* (Harvey) Harvey ex Kützing.**Plocamium raphelisianum** P. Dangeard

Mauritanie (192;349).

Sénégal (192;349).

Western Sahara (192;349).

'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).

Note. According to Lawson & John (349) Cap Vert (Sénégal) represents the southernmost limit of the species.

Plocamium rigidum Bory

Namibia (36B;348;519;523).

Note. Simons (519) commented: 'This species is very variable and its limits are difficult to establish. Generally, the thallus is fairly rigid. In its more typical form it resembles *P. cornutum*, but, whereas in the latter species all the pinnae alternate in pairs and are more or less awl-shaped, in *P. rigidum* the pinnae are somewhat more triangular and in the upper parts occur in threes. There are some rather more delicate forms which seem otherwise to be indistinguishable from the type. It is possible such forms were referred by Grunow (242) to *P. rigidum* var. *tenuior*. There is too a rather more membranous form with somewhat more triangular pinnae but attempts to find any distinguishing character from *P. rigidum* have not succeeded'. According to Delf & Michell (128), South African material named *Plocamium condensatum* Kützing is a tetrasporic form of (the cystocarpic) *P. rigidum*.

Plocamium suhrii Kützing

Angola (298;352;487).

Namibia (167;348;500).

[As *Plocamium nobile* J. Agardh]

Namibia (500).

Note. For a discussion of problems concerning this entity see Simons (519).

Plocamium telfairiae (Harvey) Harvey ex Kützing

Ghana (290;350;376;491;590).

'Tropical Africa (N. Gambia – Congo river)' (598).

'Widespread in many temperate and tropical seas' (350;586).

[As *Plocamium telfairiae* Harvey ex Kützing]

Ghana (299;377).

Note. Simons (519: 192) commented that Yendo (1915) suggested this species is synonymous with *P. nobile* J. Ag. See also note under *P. suhrii* Kützing.

Plocamium vulgare LamourouxSee *Plocamium cartilagineum* (Linnaeus) Dixon.**Plocamium** spp.

Angola (298;352).

Canaries (5).

Sénégal (529;531).

Plumaria bipinnata (Collins & Hervey) De Toni[As *Plumaria bipinnatum* (Collins & Hervey) De Toni]

Canaries (71).

Note. According to Gil-Rodríguez & Afonso-Carrillo (227) this is a synonym of *Gymnothamnion elegans* (Schousboe ex C. Agardh) J. Agardh.

Plumaria schousboei (Bornet) SchmitzSee *Gymnothamnion elegans* (Schousboe ex C. Agardh) J. Agardh.**Plumaria** sp.

Canaries (71).

Salvage Islands (38B;231).

Pneophyllum Kützing

The concept of *Pneophyllum* adopted here follows Penrose & Woelkerling (1991) and Penrose & Chamberlain (1993: 303). Chamberlain (702: 131) provides an up-to-date generic description and other data, and Chamberlain (94: 352–355) and Woelkerling (1988: 145–150) provide additional background information on the genus.

Pneophyllum amplexifrons (Harvey) Y. Chamberlain & R.E. Norris

Cape Verde Islands (598).

[As *Melobesia amplexifrons* Harvey]

Cape Verde Islands (38,408).

[As *Lithophyllum amplexiformis*]

Cape Verde Islands (598).

Note. This species was originally described as *Melobesia amplexifrons* Harvey (1849: 110), based on material from Port Natal, South Africa. The lectotype, in TCD, was designated by Woelkerling & Campbell (1992: 98). A detailed account of the species has been presented by Chamberlain & Norris (1994) who confirmed its occurrence in South Africa, Mozambique and Madagascar, and discussed reports from India, Japan, southern Australia, New Zealand, Indonesia, New Guinea, Guadeloupe and California. Foslie (206: 28) suggested that *Lithophyllum zostericolium* Foslie (199: 5) may be conspecific with *Pneophyllum amplexifrons*, but this has not been confirmed by a comparative examination of relevant type collections. The type of *Lithophyllum zostericolium* is in TRH (see 700: 239 for further information). All specimens on which West African records

of this species are based need to be checked to determine whether they are conspecific with *Pneophyllum amplexifrons*.

Pneophyllum confervicola (Kützing) Y. Chamberlain

Canaries (598;663).

Salvage Islands (598).

[As *Pneophyllum conferviculum* (Kützing) Y. Chamberlain f. *minuta* (Foslie) Chamberlain]

Mauritanie (624).

[As *Fosliella minutula* (Foslie) Ganeson]

Canaries (38B).

[As *Melobesia minutula* Foslie]

Salvage Islands (231;375;556).

[As *Hapalidium phyllactidium* (Kützing) Kützing]

Canaries (439).

Note. This species was originally described as *Phyllactidium confervicola* Kützing (316: 295), based on material from near Trieste, Italy. The holotype is in L; Woelkerling & Verheij (1995) provide further details. Based on a comparative study of the types and other specimens, Chamberlain (94) concluded that *Melobesia minutula* Foslie was a heterotypic synonym of *Pneophyllum confervicola*. Chamberlain (702: 138) reports the species to occur from Norway to the Mediterranean and in Madeira, the southern USSR, India, Pacific Mexico and the central Pacific, but not from tropical West Africa. Consequently, all specimens on which published records from the West African region are based need to be checked to determine whether they are conspecific with *Pneophyllum confervicola*.

Pneophyllum fragile Kützing

Canaries (649;702).

[As *Fosliella lejolisii* (Rosanoff) Howe]

Canaries (14;226;227;582;584).

Ghana (350;377).

'Gulf of Guinea' (582).

'... widespread in boreal-antiboreal to tropical seas' (350).

[As *Melobesia lejolisii* Rosenv. (sic!)]

Canaries (696).

[As *Pneophyllum lejolisii* (Rosanoff) Y. Chamberlain]

Canaries (94;634).

Ghana (586).

Mauritanie (624).

'... widespread in boreal-antiboreal to tropical seas' (586).

Note. *Pneophyllum fragile*, the type species of *Pneophyllum*, is based on material from an unspecified locality in the Mediterranean. The holotype is in L (see Woelkerling & Verheij, 1995) and detailed accounts of it have been provided by Chamberlain (94) and Penrose & Woelkerling (1991). Based on a comparative study of the types, Penrose & Woelkerling (1991: 496) concluded that *Melobesia lejolisii* Rosanoff (1866: 62) was a heterotypic synonym of *Pneophyllum fragile*, a conclusion followed by Chamberlain (702: 143). With the exception of Chamberlain (702), all West African records involve the specific epithet *lejolisii*, and specimens involved need to be checked to determine whether they are conspecific with *P. fragile*.

Pneophyllum lejolisii (Rosanoff) Y. Chamberlain

See *Pneophyllum fragile* Kützing.

Polycavernosa dentata (J. Agardh) G. Lawson & D. John

See note under *Gracilaria dentata* J. Agardh.

Polyneura denticulata J. Feldmann

Sénégal (55;59;290).

'... ouest africaines...' (59).

'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598;654).

Note. It is not clear if this species has been validly published as it is cited by Bodard (55) as '*Polyneura denticulata* Feldm. (nomen)' and by Bodard & Mollion (59) as '*. . . J. Feldmann mscr.*'.

Polyneura venosa (Harvey) Papenfuss

See *Hymenema venosa* (Linnaeus) Kylin.

Polyneura sp.

Sénégal (531).

Note. Most probably the same taxon as that reported under the (ms?) name of *Polyneura denticulata* J. Feldmann (q.v.).

Polyopes constrictus (Turner) J. Agardh

Namibia (348).

Polysiphonia abscissa Hooker f. & Harvey

See the notes to *Polysiphonia subtilissima* Montagne.

Polysiphonia acanthotrichia Kützing

See *Polysiphonia flexella* (C. Agardh) J. Agardh.

Polysiphonia atlantica Kapraun & J. Norris

Canaries (598;633;634;635).

Salvage Islands (598).

'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).

'... temperate eastern Atlantic. . .' (308).

'... West Africa, . . .' (642).

[As *Polysiphonia macrocarpa* Harvey]

Canaries (2;13;16;38B;38C;71;128A;191;221;225;229;

235;237; 238;253;307;375;379;392;489;547;555;

556;610).

Mauritanie (38C;349;555;556).

Salvage Islands (38B;38C;227;231;375;555;556).

Western Sahara (38C;349;555;556).

'... South of England to the Canary Islands. . .' (71).

'... Atlántico (Inglaterra – Mauritania. . .)' (253).

'desde Inglaterra a les islas Canarias. . .' (238).

[As *Polysiphonia* cf. *macrocarpa*]

Canaries (38D).

Mauritanie (38D).

Salvage Islands (38D).

Western Sahara (38D).

[As *Polysiphonia pulvinata* Harvey]

Salvage Islands (231).

Note. Not the same plant as *Polysiphonia pulvinata* (Roth) Sprengel. Børgesen (71) and Womersley (560) firmly placed *P. pulvinata* Harvey in synonymy with *P. macrocarpa* Harvey (now *P. atlantica* Kapraun & Norris). According to Feldmann (193), *P. pulvinata* Harvey is not the same as *P. pulvinata* (C. Agardh) Bornet which latter is a synonym of *Polysiphonia hemisphaerica* Areschoug.

[As *Polysiphonia pulvinata* Sprengel]

Canaries (401).

Note. Kapraun et al. (310) commented on the suggested *Polysiphonia atlantica*-*P. subtilissima* relationship as follows: '*. . . Womersley (1979)[560] suggested that Polysiphonia atlantica (as P. macrocarpa) and P. subtilissima are closely related. Studies of these taxa in the western Atlantic, however, have shown them to have distinct developmental patterns. Whereas Polysiphonia subtilissima has radial development of branches in prostrate axes, P. atlantica gives rise to unilateral filaments from prostrate axes, producing a dorsiventral habit (Kapraun, 1977[307], 1979).*'

Polysiphonia atrorubescens (Dillwyn) Greville

See *Polysiphonia nigra* (Hudson) Batters.

Polysiphonia breviarticulata (C. Agardh) Zanardini

Canaries (71;191;227;235;634;642).

Polysiphonia brodiaei (Dillwyn) Sprengel

Salvage Islands (38B).

[As *Polysiphonia brodiaei* (Dillwyn) Greville]

Canaries (662).

Salvage Islands (231;375;598).

[As *Polysiphonia brodiaei* Dillwyn]

Salvage Islands (215;216).

Polysiphonia camerunensis Pilger

Cameroon (139;350;454;586).

‘. . . so far known only from the tropical parts of the eastern Atlantic Ocean. . .’ (350;586).

‘Tropical Africa (N. Gambia – Congo river)’ (598).

Polysiphonia caretia Hollenberg

Canaries (698).

Polysiphonia ceramiaeformis P. & H. Crouan

Canaries (698).

Salvage Islands (38B?;556?).

Note. Weisscher (556) indicated that the plant from Selvagem Pequena agreed with the description by Lauret (1970), who keyed out characteristic differences between *Polysiphonia ceramiaeformis* and *P. furcellata* (C. Agardh) Harvey, though earlier authors such as De Toni (139) considered them synonymous. Absence of fructification from the Salvage Island plant prevented certainty of identification.

Polysiphonia coarctata Kützing

See *Polysiphonia furcellata* (C. Agardh) Harvey.

Polysiphonia collabens (C. Agardh) Kützing

See *Streblodadia collabens* (C. Agardh) Falkenberg.

Polysiphonia complanata (Clemente) J. Agardh

See *Pterosiphonia complanata* (Clemente) Falkenberg.

Polysiphonia corymbifera (C. Agardh) Harvey

See *Polysiphonia urbana* Harvey.

Polysiphonia dendritica Hooker & Harvey

See *Dipterosiphonia dendritica* (C. Agardh) Falkenberg.

Polysiphonia denudata (Dillwyn) Greville ex Harvey

Canaries (598;698;699).

Cape Verde Islands (652?).

Mauritania (38B;38D;349).

Salvage Islands (38B;38D;598).

São Tomé (350;586).

Sénégal (350;586).

Western Sahara (38B;38D;349).

‘. . . from boreal-antiboreal to tropical parts of the Atlantic Ocean’ (350;586).

‘Netherlands to Portugal and West Africa; . . .’ (711).

‘Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]’ (598).

‘(Tropical Africa (N. of Gambia – Congo river)’ (598).

‘West Africa’ (310;642).

[As *Polysiphonia denudata* (Dillwyn) Kützing]

Angola (352).

São Tomé (93).

[As *Polysiphonia* cf. *denudata* (Dillwyn) Greville ex Harvey]

Cape Verde Islands (652).

[As *Polysiphonia variegata* (C. Agardh) Zanardini]

Mauritania (516).

Sénégal (99).

Polysiphonia elongata (Hudson) Sprengel

[As *Polysiphonia elongata* (Hudson) Greville ex Harvey]

Canaries (38D;584;598;635;663).

Salvage Islands (38D;598).

[As *Polysiphonia elongata* (Hudson) Harvey]

Angola (239;500).

Canaries (38B;71;74;191;226;227;253;262;375;439;583).

Salvage Islands (38B).

‘. . . Atlantic Ocean (. . . African . . . coasts. . .)’ (177).

‘. . . Atlántico (Noruega – Canarias. . .). . .’ (253).

[As *Polysiphonia elongata* (Hudson) Harvey f. *Ruchingeri* (Ag.) Børgesen]

Canaries (71).

[As *Polysiphonia elongata* Harvey]

Angola (41;42).

[As *Polysiphonia elongata* Greville]

‘Atlantic (. . . N. Africa). . .’ (410).

Note. Levring (375) reported the species from deep water (30–70 m) attached to stones and shells on Madeira – ‘. . . it seems always to be the more or less denuded form, which apparently was also found in the Canaries’. According to Maggs & Hommersand (711) the authorities for this species are (Hudson) Sprengel.

Polysiphonia erythraea (Schousboe) J. Agardh

Canaries (71;89;133;139;191;227;306B;375;547;598).

Salvage Islands (38B;215;231;375;598).

‘. . . ex ostio fl. “Guadalquivir” usque ad insulas Canarias’ (133).

‘. . . mouth of the Guadalquivir southwards to the Canary Islands . . .’ (71).

[As *Polysiphonia erythraea* Schousboe]

Salvage Islands (216).

Polysiphonia ferulacea Suhr ex J. Agardh

Cameroon (337;484;698).

Canaries (38B;598;662;698).

Cape Verde Islands (38;38B;100;183;213;598;652;713).

Côte d’Ivoire (287;288;295;350;586).

Ghana (153;213;299;338;350;376;377;491;537;586;695;703).

Liberia (129;287;350;586).

Nigeria (213;350;586).

St. Helena (644).

Salvage Islands (38B;598).

Sierra Leone (295;350;586).

‘Tropical Africa (N. Gambia – Congo river)’ (598).

‘. . . West Africa. . .’ (642)

‘. . . widespread amphi-atlantic species; temperate and tropical’ (644).

‘. . . Widespread in subtropical and tropical seas. . .’ (308).

‘. . . widespread in warm temperate and tropical seas. . .’ (350;586).

[As *Polysiphonia ferulacea* J. Agardh]

Cape Verde Islands (38).

[As *Polysiphonia ferulacea* (Suhr) J. Agardh]

Canaries (38D;375).

Cape Verde Islands (38D).

Salvage Islands (38D).

[As *Polysiphonia ferulacea* Suhr]

Cape Verde Islands (652).

Polysiphonia flexella (C. Agardh) J. Agardh

Canaries (26;38B;38D;71;128A;133;191;214;584;598;635;648;662;663;684;699).

Salvage Islands (38B;38D;598).

[As *Polysiphonia flexella* var. *acanthotrichia* (Kützing) Piccone]

Canaries (71;439;642).

[As *Dasya acanthophora* Montagne]

Canaries (44;401;407).

[As *Dasya solieri* J. Agardh ex Montagne]

Canaries (401).

[As *Dasya solieri* Ag.]

Canaries (44).

[As *Polysiphonia acanthotrichia* Kützing]

Canaries (317;318;322).

[As *Polysiphonia flexella* J. Agardh]

Canaries (13;226;227).

‘Du golfe de Gascogne aux Canaries. . .’ (89).

‘. . . Gulf of Gascogne southwards to the Canary Islands. . .’ (71).

Polysiphonia flocculosa (C. Agardh) Kützing

See *Polysiphonia subcontinua* (C. Agardh) J. Agardh.

Polysiphonia cf. **foetidissima** Cocks ex Bornet

Salvage Islands (38B;556;598).

Note. Weisscher (556) expressed doubt concerning the identification of material from the Salvage Islands, but if correct this is a new record for Macaronesia.

Polysiphonia fruticulosa (Wulfen) Sprengel

Canaries (26;133;191;227;303;401;499;517;633;634;642;648;684).

‘. . . Atlantico (de Inglaterra a Canarias. . .)’ (517).

‘. . . Atlantique: depuis les côtes anglaises jusqu’au Canaries.’ (221).

‘. . . English coast southwards to the Canary Islands. . .’ (71).

‘. . . Im Atlantischen Ozean von den englischen Küsten bis zum dem Kanaren. . .’ (499).

‘. . . in oceano Atlantico ab oris Angliae usque ad insulas Canarienses. . .’ (133).

‘Nordwestafrika’ (499).

[As *Polysiphonia wulfenii* (C. Agardh) Kützing]

Cape Verde Islands (38).

Sénégal (408).

[As *Polysiphonia fruticosa* (Wulfen) Sprengel, orth. error]

Canaries (227).

[As *Polysiphonia nigrescens* Harvey]

Canaries (401).

[As *Polysiphonia fruticulosa* Sprengel]

Canaries (44).

[As *Rytiphlaea fruticulosa* Harvey]

Canaries (254;305).

[As *Polysiphonia fruticulosa* Sprengel a. *genuina* and b. *wulfenii*, forma *pusilla*]

‘De la Grande-Bretagne aux Canaries. . .’ (89).

[As *Boergeseniella fruticulosa* (Wulfen) Kylin]

Canaries (38C;38D;232B).

‘. . . Atlantique (du Portugal aux Canaries). . .’ (33).

Note. See note under *Polysiphonia fucoides* (Hudson) Greville. Maggs & Hommersand (711) placed *P. fruticulosa* (Wulfen) Harvey under *Boergeseniella fruticulosa* (Wulfen) Kylin and reported it from ‘British Isles to Morocco and Canaries’. In the view of the impossibility of transferring these records to an earlier part (Price et al., 1988), they are included here for completeness.

Polysiphonia fucoides (Hudson) Greville

[As *Polysiphonia nigrescens* (Greville) Harvey]

‘. . . De Norvège aux Canaries (Montagne). . .’ (89).

[As *Polysiphonia nigrescens* Harvey]

?Canaries (44;227;401).

[As *Polysiphonia nigrescens* (Dillwyn) Greville]

Canaries (133).

[As *Polysiphonia nigrescens* (Dillwyn) Greville]

Canaries (239).

Note. According to Børgesen (71), the Montagne/Benitez record (44;401) could not be *Polysiphonia nigrescens* (now *P. fucoides*) but possibly relates to *P. fruticulosa* (Wulfen) Sprengel (now *Boergeseniella fruticulosa* (Wulfen) Kylin). Gil-Rodríguez & Afonso-Carrillo (227) also considered that the material reported by Montagne was actually *P. fruticulosa*.

[As *Polysiphonia violacea* (Roth) Greville]

Canaries (2?;38D;191;237;392;598).

[As *Polysiphonia violacea* (Roth) Greville ex Rosenvinge]

Canaries (71).

[As *Polysiphonia violacea* (Roth) Greville var. *subulata* (Ducluzeau) Hauck]

Canaries (38D).

Salvage Islands (38D).

[As *Polysiphonia violacea* (Roth) Sprengel]

Canaries (8;226;227;238;375).

[As *Polysiphonia myriococca* Montagne]

Canaries (439;598).

‘Macaronesia s.s.’ (653).

Note. See comments under *Polysiphonia myriococca* Montagne.

[As *Polysiphonia subulata* (Ducluzeau) J. Agardh]

Canaries (38B;38C;662).

Salvage Islands (38B;598).

Note. We follow Maggs & Hommersand (711) in assigning records of *Polysiphonia violacea* auct., non Harvey to synonymy under this species. For discussion on the complexity of the situation, see Maggs & Hommersand (711: 336) and Kapraun & Ruess (309).

Polysiphonia funebris De Notaris

Canaries (698?).

Polysiphonia furcellata (C. Agardh) Harvey

Canaries (38B;38C;38D;128A;133;227;305;306B;318;375;401;584;684).

Salvage Islands (38B;38D;598;684).

‘. . . Atlantique (de l’Angleterre aux Canaries). . .’ (33).

‘. . . Atlantique nord, de l’Angleterre aux Canaries’ (190).

‘British Isles to Canaries. . .’ (711).

[As *Polysiphonia furcellata* Harvey]

Canaries (44;191;254).

‘. . . De l’Angleterre aux Canaries. . .’ (89).

Note. Kützing’s (318) species *Polysiphonia laevigata* and *P. coarctata* were placed by Børgesen (71) in the synonymy of this species. See also 663, and the note under *P. ceramiaeformis* P. & H. Crouan.

Polysiphonia gonatophora Kützing

Canaries (439;663).

Note. According to Børgesen (71), this record possibly relates to *Polysiphonia erythraea* (Schousboe) J. Agardh. He had not seen the specimen collected by Liebethuth from Tenerife. Since Kützing described two different forms under this name at different times, one with four pericentrals (316) and another with six (318) (J. Agardh (26) thought the 4-pericentralled one was close to *P. erythraea*), Børgesen could not confirm the identification without seeing Liebethuth’s specimen. According to Prud’homme van Reine et al. (663), Liebethuth’s material is neither in the Erbario Patavinum (PAD) nor in the Naturhistorisches Museum Wien (W) and thus is most probably lost.

Polysiphonia gorgoniae Harvey

?Cape Verde Islands (38;150;598).

Mauritanie (624).

Polysiphonia harveyi Bailey

?Canaries (698;699).

Polysiphonia havanensis Montagne

Canaries (38B;556;598).

Salvage Islands (38B;556;598).

Note. Weisscher (556) commented that the CANCAP plant agreed with the description in Børgesen (61) except that the sporangia were in a continuous row, terminal on erect axes. Ardré (33) considered the type of *P. havanensis* Montagne to be very similar to *P. macrocarpa* Harvey, but reasons for keeping the taxa separate were restated by Womersley (560). Although Kapraun (307) indicated similarities between *P. havanensis* sensu Børgesen (62) and *P. sertularioides* (Grateloup) J. Agardh, Womersley (560) found these species to be clearly distinct since specimens of the latter from the Mediterranean had rhizoids cut proximally off pericentrals. See also the accounts in Lauret (1967) and Kapraun et al. (310). Prud'homme van Reine et al. (663) deleted this species from records of marine algae in Macaronesia although noting 'not all published records have been checked by us'.

Polysiphonia incompta HarveySee *Streblodcladia comptoclada* (Montagne) Falkenberg.**Polysiphonia irregularis** Zanardini mscr.See *Herposiphonia? parvula* (Suhr ex Kützing) De Toni.**Polysiphonia laevigata** KützingSee *Polysiphonia furcellata* (C. Agardh) Harvey.**Polysiphonia lepadicola** (Lyngbye) Kützing

Cape Verde Islands (38).

[As *Polysiphonia lepadicola* Lyngbye]

Cape Verde Islands (408;528).

Note. According to Viera-Rodríguez et al. (667), this species is a synonym of *Polysiphonia urceolata* (Lightfoot ex Dillwyn) Greville.

Polysiphonia letestui P. DangeardSee notes for *Bostrychia radicans* (Montagne) Montagne.**Polysiphonia macrocarpa** HarveySee *Polysiphonia atlantica* Kapraun & Norris.

Note. Kapraun & Norris (308) have reluctantly abandoned the name *Polysiphonia macrocarpa* Harvey for this taxon. Womersley (560) noted that *P. macrocarpa* Harvey is a later homonym of *P. macrocarpa* (C. Agardh) Sprengel (Basionym: *Hutchinsia macrocarpa* C. Agardh). Pending further studies, they proposed the name *P. atlantica* Kapraun & Norris for the taxon, which was in any case in great need of taxonomic and nomenclatural revision. Remaining unresolved is the identity of C. Agardh's *Hutchinsia macrocarpa* from the Antilles that has never been reported again. See *Polysiphonia havanensis* Montagne.

Polysiphonia mottei LauretSee *Polysiphonia nutans* Montagne.**Polysiphonia myriococca** Montagne

Canaries (26;44;71;133;191;227;318;321;401;407)

Salvage Islands (598).

Note. This species was reported by Piccone (439) from the Canaries based on material collected by Liebetruith. Prud'homme van Reine et al. (663) examined this material and consider *Polysiphonia violacea* auct. (now *P. fucoides* (Hudson) Greville) the correct name to apply to it, therefore deleting the record of *P. myriococca* from the marine algae of Macaronesia. Until the material upon which all published records are based is traced and examined *P. myriococca* is still recognized here.

Polysiphonia nigra (Hudson) Batters[As *Polysiphonia atrorubescens* (Dillwyn) Greville]

Namibia (348).

Polysiphonia nigrescens (Hudson) Greville ex HarveySee *Polysiphonia fucoides* (Hudson) Greville.**Polysiphonia nutans** Montagne

Canaries (26;44;71;227;318;321;375;598).

Salvage Islands (38B?;231;375;598).

'. . . Atlantique (. . . Canaries)' (33).

'Macaronesia' (653).

[As *Polysiphonia nutans* Montagne]

Canaries (191).

Note. According to an editorial note, presumably by G. Feldmann after J. Feldmann's death and published with the latter's *Polysiphonia* key (193), J. Feldmann had added a manuscript note in the margin of his entry step in the key to the effect that *P. sanguinea* (Agardh) Zanardini includes *P. purpurea* J. Agardh, *P. vestita* J. Agardh, *P. mottei* Lauret and *P. nutans* Montagne. Montagne (401) indicated in his comments that *P. nutans* resembles in different ways several others, notably *P. violacea*, *P. elongata* and *P. polyspora*.

Polysiphonia obscura (C. Agardh) J. AgardhSee *Lophosiphonia reptabunda* (Suhr) Kylin.**Polysiphonia opaca** (C. Agardh) Moris & De Notaris

Canaries (226;227;634;663;711).

[As *Polysiphonia opaca* (C. Agardh) Zanardini]

Canaries (38B;38D;71;110;190;191;375;392;439;490;546;556;584;598; 610;684).

Salvage Islands (38B;38D;231;375;556).

[As *Polysiphonia opaca* (C. Agardh) Zanardini var. (*aculeifera* Zanardini?)]

Canaries (390).

Polysiphonia pacifica HollenbergSee notes to *Polysiphonia subtilissima* Montagne.**Polysiphonia cf. paniculata** Montagne

Salvage Islands (38B).

Note. The Audiffred & Weisscher (38B) record is accompanied by the comment: 'This plant seems to be distinct from *P. paniculata* as described by Lauret (1970) by its rhizoids cut off from the distal end of pericentral cells, the extreme branches not being placed distichously, the straight pericentral siphons and the inward curled apices of the branches'.

Polysiphonia parvula Suhr ex Kützing [non Zanardini]See *Herposiphonia? parvula* (Suhr ex Kützing) De Toni.**Polysiphonia pennata** (C. Agardh) J. AgardhSee *Pterosiphonia pennata* (C. Agardh) Falkenberg.**Polysiphonia polyspora** (C. Agardh) J. Agardh

Canaries (133).

Senegambia (138;296).

'. . . Atlantique (du golfe de Gascogne au Sénégal). . .' (33).

'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).

'Tropical Africa (N. Gambia – Congo river)' (598).

[As *Polysiphonia polyspora* J. Agardh]

Canaries (89).

Sénégal (89).

'. . . Du golfe de Gascogne au Sénégal. . .' (89).

Note. Bornet (89) stated: 'Cette algue n'est peut-être qu'une variété du *Polysiphonia variegata* dont elle se distingue surtout par la grosseur et la rigidité de ses branches qui égalent souvent celles du *P. elongata*. . . elle semble localisée dans cette région de l'Océan [Biarritz to Canaries and Sénégal], d'où je n'ai pas vue la *P. variegata*', although Ardré (33), who apparently believed as Feldmann (193) did that *P. denudata* and *P. variegata* were conspecific, considered *P. polyspora* to be distinguished from *P. denudata* by its greater robustness.

Polysiphonia pulvinata (Roth) Sprengel

[As *Polysiphonia pulvinata* (Roth) C. Agardh]
Canaries (318).

[As *Polysiphonia pulvinata* Sprengel]

Canaries (44;254;401).

Note. Sprengel's *Polysiphonia pulvinata* is not the taxon described under the same name by Harvey (see 560). The application of *P. pulvinata* (Roth) Sprengel to forms with six (as in Roth's taxon) or four (some subsequent authors) pericentrals has been discussed by Kapraun & Rueness (309). Areschoug had earlier (1850) used the name *P. pulvinata* Roth for Scandinavian material, but later (1876) applied the new name *P. hemisphaerica* Areschoug to that material. Kapraun & Rueness (309) were unable to locate a Roth type and therefore could not decide on conspecificities. See also *P. sertularioides* (Grateloup) J. Agardh and comments on *P. pulvinata* Harvey under *P. atlantica* Kapraun & J. Norris.

Polysiphonia pulvinata Harvey

See *Polysiphonia atlantica* Kapraun & J. Norris.

Polysiphonia purpurea J. Agardh

See *Polysiphonia nutans* Montagne.

Polysiphonia reptabunda Suhr

See *Lophosiphonia reptabunda* (Suhr) Kylin.

Polysiphonia rigens Schousboe ex C. Agardh

See *Dipterosiphonia rigens* (Schousboe ex C. Agardh) Falkenberg.

Polysiphonia sanguinea (C. Agardh) Zanardini

See *Polysiphonia nutans* Montagne.

Polysiphonia scopulorum Harvey

[As *Lophosiphonia scopulorum* (Harvey) Womersley]

Canaries (38D;556;598;633;639;648).

Salvage Islands (38B;38D;231;375;556;598).

Polysiphonia scopulorum var. **villum** (J. Agardh) Hollenberg

'... widely recorded from subtropical and temperate countries. . .' (560).

[As *Polysiphonia villum* J. Agardh]

Cape Verde Islands (38?;145?;598).

Note. Dickie (145) was not certain of the correct identification.

Polysiphonia secunda auct.

See *Herposiphonia secunda* f. *secunda* (C. Agardh) Wynne.

Polysiphonia sertularioides (Grateloup) J. Agardh

Canaries (226;227;584;598;665).

'... Im Atlantischen Ozean von englischen Küsten an südwärts. . .' (499).

'Nordwestafrika' (499).

'... probably a widely distributed species. . .' (560).

[As *Polysiphonia sertularioides* auct. ?]

Angola (261;263;264).

[As *Polysiphonia pulvinata* Kützing]

'et atlantico usque ad ins Canarias' (318).

Note. Papenfuss (434) discusses the status of records of this species from South Africa and concludes, so far as can be ascertained, that it does not occur in that country since all the material concerned is attributable to *Polysiphonia incompta*. If the Angola record cited above is correct then it represents the southernmost limit of the species along the West African coast. Gil-Rodríguez and Afonso-Carrillo (226) state: 'Especie distribuida por las costas mediterráneas, citada por primera vez para las Islas Canarias'. This species and *Polysiphonia flaccidissima* Hollenberg, the latter well-known from the New World, may be conspecific (see 308, 560).

Polysiphonia simpliciuscula P. & H. Crouan

See *Ophiocladus simpliciusculus* (P. & H. Crouan) Falkenberg.

Polysiphonia souriei, J. Feldmann, nomen nudum

Sénégal (529).

'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).

Note. Sourie (529) commented: '... espèce nommée, mais non encore décrite par J. Feldmann'.

Polysiphonia sphaerocarpa Børgesen

Canaries (38B;128A;556;598;698).

Salvage Islands (38B;556;598;650).

Sénégal (38B).

'... apparently a member of the pan-tropical flora' (307;308).

'Macaronesia s.s.' (653).

'... widespread in tropical Atlantic. . .' (308).

'... widespread in tropical seas' (642).

Note. For a discussion on *P. sphaerocarpa*, see Verlaque (650).

Polysiphonia stricta (Dillwyn) Greville

Canaries (227;401)

[As *Polysiphonia stricta* Greville]

Canaries (44;71).

[As *Polysiphonia urceolata* (Lightfoot in Dillwyn) Greville]

Canaries (307;598;633;634;635;666;667).

Cape Verde Islands (598).

Note. This species forms an ill-defined complex (see 307) with Kapraun & Rueness (309) commenting that it includes (as *P. urceolata*) numerous morphological forms throughout the North Atlantic range which has led to different taxonomic treatments by authors and it is 'not known if the physiologically and morphologically distinguishable populations. . . represent ecotypes, genetically related sibling species, or some combination of these'. Gil-Rodríguez & Afonso-Carrillo (227) comment: 'Montagne (1840) menciona esta especie para Canarias; sin embargo, Boergesen (1930) considera dudota esta determinación'. See also notes under *Polysiphonia subtilissima* Montagne.

Polysiphonia subcontinua (C. Agardh) J. Agardh

Canaries (598).

'... Atlantischer Ozean. . . südwärts bis zu den Kanaren. . .' (498;499).

'... eadem ad insulas Canariensis?' (133).

[As *Polysiphonia flocculosa* (C. Agardh) Kützing]

Canaries (26;71;128A;190;191;226;227;584;634?;635;662).

[As *Polysiphonia flocculosa* Kützing]

Canaries (89).

Polysiphonia subtilissima Montagne

Angola (352).

Annobon (456;457).

Ascension (475).

Bioko (346;350;586).

Cameroun (139;350;454;586).

Cape Verde Islands (652;713).

Côte d'Ivoire (350;586).

Gambia (296;350;586).

Ghana (350;376;377;491;586).

Liberia (129;350;586).

St. Helena (644).

Sierra Leone (295;350;586).

[As *Polysiphonia* sp.]

Cote d'Ivoire (288).

Liberia (288).

Note. Womersley (560) commented that this appears to be a widespread species, often found in conditions of reduced salinity. He also stated: ‘. . . it seems likely that *P. abscessa* [widely reported from the southern hemisphere] should be united with *P. subtilissima* and probably with *P. pacifica* var. *pacifica* [from the Pacific]’, and went on to conclude that these taxa form, with the northern *Polysiphonia urceolata* (Lightfoot ex Dillwyn) Greville [now *P. stricta*], ‘a complex of closely related taxa and may prove to comprise only one (or two) species’. So far as the relationships between *P. subtilissima* and *P. macrocarpa* are concerned these, although closely related, appear to show some consistent differences. Commenting on Womersley’s (560) conclusions that *P. abscessa*, *P. subtilissima*, *P. stricta* (as *P. urceolata*) and *P. pacifica* Hollenberg comprise a complex of closely related taxa, Kapraun et al. (310) could not assess the matter as regards *P. abscessa* and *P. pacifica* but considered the European/N. Atlantic *P. stricta* (an ill-defined complex) to be distinct from New World *P. subtilissima* (Kapraun, 1980). See also remarks in Maggs & Hommersand (711: 358).

Polysiphonia subulata (Ducluzeau) J. Agardh
See *Polysiphonia fucooides* (Hudson) Greville.

Polysiphonia subulifera (C. Agardh) Harvey
Canaries
(71;101;226;227;303;306B;493;584;598;633;634;635).
‘. . . Atlantic ocean (from England to Canary Islands)’ (177).
‘. . . Atlantique nord (de l’Angleterre aux Canaries)’ (190).
‘. . . English coast southwards to the Canary Islands. . .’ (71).

Note. See Maggs & Hommersand (711: 360) on resemblance to *Boergesenella fruticulosa* (Wulfen) Kylin.

Polysiphonia tenella J. Agardh
See *Herposiphonia secunda* f. *tenella* (C. Agardh) Wynne.

Polysiphonia tepida Hollenberg
Canaries (38D).
[As *Polysiphonia* cf. *tepida* Hollenberg]
Canaries (598).
Cape Verde Islands (598).
‘Macaronesia’ (700).

Note. Audiffred & Prud’homme van Reine (38D), who reported this taxon from the Madeiran archipelago and with a question mark from Gran Canaria, commented that some of their specimens had only six pericentrals, thus contrasting with the description of Kapraun (307) that gives seven or eight.

Polysiphonia tripinnata J. Agardh
Canaries (598;662;665;667).
Salvage Islands (38B;38D;598).
‘Macaronesia’ (653).
Note. Lauret (1967) regarded this taxon as a variety (var. *tripinnata* (J. Agardh) Lauret) of *Polysiphonia opaca* (Agardh) Zanardini. He later (1970) decided to recognize the species *Polysiphonia tripinnata* J. Agardh and gave a table of distinctive differences between the two species.

Polysiphonia urbana Harvey
Namibia (348).

Polysiphonia urceolata (Lightfoot ex Dillwyn) Greville
See under *Polysiphonia lepadicola* (Lyngbye) Kützing, *P. subtilissima* Montagne, and *P. stricta* (Dillwyn) Greville.

Polysiphonia variegata (C. Agardh) Zanardini
See *Polysiphonia denudata* (Dillwyn) Greville ex Harvey.

Polysiphonia vestita J. Agardh
See *Polysiphonia nutans* Montagne.

Polysiphonia villum J. Agardh
See *Polysiphonia scopulorum* var. *villum* (J. Agardh) Hollenberg.

Polysiphonia violacea auct.
See *Polysiphonia fucooides* (Hudson) Greville.

Polysiphonia virgata (C. Agardh) Sprengel
Namibia (36B).
Note. Wynne (36B), in recording *Polysiphonia virgata* (C. Agardh) Sprengel from Namibia, commented (pp. 321–322): ‘This name is being used for this taxon with the realization that it has been assigned to other genera in recent years, for example, *Carradoria* (Simons, 1976 [524]) and *Tayloriella* (Seagrief 1984 [570]). However, an assignment of this taxon to either of these genera is inappropriate. . . The absence of trichoblasts seems to be the sole basis for Papenfuss’ (1940b [429]) transfer of this species to *Tayloriella* of Kylin (1938). . . It is clear that *P. virgata* is not congeneric with *Tayloriella*. . . *Carradoria* must be regarded as a superfluous substitute name for *Hutchinsia* (Farr et al., 1979) and thus illegitimate’.

Polysiphonia wulfenii (C. Agardh) Kützing
See *Polysiphonia fruticulosa* (Wulfen) Sprengel.

Polysiphonia spp.
Angola (352).
Ascension (474).
Bioko (346).
Benin (293;350;586).
Canaries (71;225;301;306B;489;490;634;684;696).
Cape Verde Islands (652).
Côte d’Ivoire (288).
Gabon (294).
Ghana (290;297;299;342;376;491).
Guinée (529).
Liberia (288;350;586).
Mauritanie (349;624).
St Helena (644).
Salvage Islands (38B;231;375;556).
Togo (293).

Polystrata dura Heydrich
‘Macaronesia s.s.’ (653).

Polystrata fosliei (Weber-van Bosse) Denizot
Cape Verde Islands (130;598).
Note. Denizot (130) commented on this record as follows: ‘. . . échantillon reconnu par Mme. Lemoine et très amiablement communiqué par elle, confié par M. Cadenat’. According to Lemoine (366) ‘Les concrétions draguées à 40–42 mètres au Nord de l’Ile Maïo par M. Cadenot sont constituées par des thalles superposés de douze espèces calcaires; en surface j’ai reconnu une Squamariacée à thalle calcifié inédite qui sera décrite par M. Denizot. . .’

Porolithon Foslie
Following Penrose & Woelkerling (1992: 87) and Chamberlain (702: 114), *Porolithon* is treated here as a heterotypic synonym of *Hydrolithon*. Although *Hydrolithon* was included in an earlier paper in this series (Price et al., 1992: 131), the following taxa were not dealt with at that time and are included here for the sake of completeness.

Porolithon aequinoctiale (Foslie) Foslie
São Tomé (139;211;350;586).
‘. . . in tropical parts of the eastern Atlantic Ocean. . .’ (350;586).
‘. . . oras occidentales Africae (F. Quintas)’ (139).
‘Tropical Africa (N. Gambia – Congo river)’ (598).

[As *Lithophyllum (Porolithon) aequinoctiale* Foslie]

São Tomé (6;138;211).

‘. . . ved Rotas-øen, St. Thomas, ved vestkysten af Afrika (F. Quintas, Jard. Bot. Coimbra, 23 delvio)’ (211).

[As *Lithophyllum aequinoctiale* Foslie]

São Tomé (212;535;700).

Note. This species was originally described as *Lithophyllum aequinoctiale* Foslie (211: 46), based on material from São Tomé. The holotype in TRH (see 700: 20 for further information) has not been studied in detail in a modern context and thus the status and generic disposition of the species are uncertain, as are all records from the West African region.

Porolithon africanum* (Foslie) Foslie**See *Spongites africanum* (Foslie) Afonso-Carrillo et al.Porolithon boergesenii* (Foslie) Lemoine**See *Hydrolithon boergesenii* (Foslie) Foslie.***Porolithon boergesenii* var. *africana* (Foslie) Lemoine**See *Hydrolithon boergesenii* (Foslie) Foslie.***Porolithon mamillare* (Harvey) Foslie**See *Neogoniolithon mamillare* (Harvey) Setchell & Mason.***Porolithon oligocarpum* (Foslie) Foslie**

Canaries (10;128A;139;211;253;367;493;582;583;663).

Cape Verde Islands (253;367).

‘. . . golfe de Guinée. . .’ (367).

‘Gulf of Guinea’ (582).

‘Atlántico Oriental (Azores, Canarias y Cabo Verde)’ (253)

[As *Lithophyllum oligocarpum* Foslie]

Canaries (205;700).

[As *Porolithon onkodes* (Heydrich) Foslie var. *oligocarpa* (Foslie) Lemoine]

Canaries (70;191;362;363;499).

Note. This taxon was originally described as *Lithophyllum oligocarpum* Foslie (205: 22), based on material from Puerto Orotava, Tenerife, Canary Islands. The holotype in TRH (see 700: 163) has not been studied in detail in a modern context and thus the status and generic disposition of the species are uncertain, as are all records from the West African region. Lemoine (362) treated *Porolithon oligocarpum* as a variety of *P. onkodes*, but this has not been confirmed by a comparative analysis of relevant type collections.

***Porolithon onkodes* (Heydrich) Foslie**

Canaries (366;368;598).

Cape Verde Islands (366;368;598).

Ghana (350;586).

São Tomé (350;586).

‘Pantropical’ (366).

‘. . . probably pantropical’ (350;586).

‘Tropical Africa (N. Gambia-Congo river)’ (598).

Note. *Porolithon onkodes*, the type species of *Porolithon*, was originally described as *Lithothamnion onkodes* Heydrich (1897: 6), based on material from Tami Island, New Guinea. The lectotype, designated by Adey et al. (1982), is in TRH (see 700: 164 for additional information). Based on a study of the type and other collections, Penrose & Woelkerling (1992: 83) transferred *Porolithon onkodes* to *Hydrolithon* as a distinct species (i.e., *H. onkodes* (Heydrich) Penrose & Woelkerling) and regarded *Porolithon* to be a heterotypic synonym of *Hydrolithon*. These conclusions are followed here. All specimens on which the above published records from the West African region are based now need to be checked to determine whether they are conspecific with *Hydrolithon onkodes*.

***Porolithon* sp.**

Canaries (17;382).

Ghana (129;695).

***Predaea feldmannii* Børgesen**

Cape Verde Islands (CANCAP Expedition, pers. com., W. F. Prud’homme van Reine).

Ghana (39A;290;299;315;350;376;377;580;586;613;642;644).

St. Helena (39A;85;315;580;613;704).

‘. . . in warm temperate and tropical seas’ (350;586).

‘Tropical Africa (N. Gambia – Congo river)’ (598;654).

Note. For background information and details of the two morphologically separate forms, one wide and one narrow, see Kraft & John (315). Diagnoses of both *P. feldmannii* and *P. weldii* Kraft & Abbott (latter from Hawaii) are based essentially on the narrow form.

***Predaea huismanii* Kraft**

Canaries (646;699).

***Predaea masonii* (Setchell & Gardner) G. De Toni**

Canaries (635).

Ghana (299;315;350;586;613;642).

‘. . . in warm temperate and tropical parts of the Atlantic Ocean’ (350;586).

‘Tropical Africa (N. Gambia – Congo river)’ (598).

***Predaea pusilla* (Berthold) J. Feldmann**

Canaries (648).

***Pseudobranchioglossum senegalense* Bodard**

Sénégal (55;56;59;290).

‘. . . ouest africaines. . .’ (59).

‘Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]’ (598).

‘Tropical western Africa’ (654).

Pseudogloiophloea verae* (Dickinson) Papenfuss**See *Scinaia verae* (Dickinson) Huisman.Pseudolithophyllum* Lemoine**

Following Woelkerling (1988: 103), the genus *Pseudolithophyllum* is treated here as a heterotypic synonym of *Lithophyllum*. Eight species ascribed at some stage to *Pseudolithophyllum* have been recorded from the western coast of tropical Africa and adjacent islands; seven of these have been dealt with under *Lithophyllum* and the eighth under *Mesophyllum*.

***Pseudolithophyllum esperi* Lemoine**

See *Lithophyllum esperi* (Lemoine) South & Tittley. One additional reference under the binomial *Pseudolithophyllum esperi* is Canaries (366).

***Pseudolithophyllum expansum* (Philippi) Lemoine**

Canaries (359;363).

Mauritania (88;363).

Sénégal (248;365).

‘Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]’ (598).

[As *Lithophyllum expansum* Philippi]

Canaries (211; 493).

Mauritania (356?)

Salvage Islands (439;448).

[As *Lithophyllum expansum* f. *exigua* Foslie]

Canaries (70).

Note. *Pseudolithophyllum expansum* is treated here as a heterotypic synonym of *Mesophyllum lichenoides* (q.v.). The above references are additional to those given in the entry for *Mesophyllum lichenoides* (Ellis) Lemoine. Data on the holotype of *Lithophyllum expansum* f. *exigua* are provided by Woelkerling (700: 88) under the correct basionym (*Lithothamnion expansum* f. *exigua* Foslie). The

type has not been examined in a modern context, and thus the status and disposition of this taxon are unknown.

Pseudolithophyllum irregulare (Foslie) Adey

See *Lithophyllum irregulare* (Foslie) Huvé ex Steentoft. One additional reference under that binomial is Canaries (598).

Pseudolithophyllum leptothalloideum (Pilger) De Toni

See *Lithophyllum leptothalloideum* Pilger.

Pseudolithophyllum lobatum (Lemoine) Verlaque & Boudouresque

See *Lithophyllum lobatum* Lemoine. Two additional references under that binomial are Canaries (79) and Sénégal (366).

Pseudolithophyllum mildbraedii (Pilger) De Toni

See *Lithophyllum mildbraedii* Pilger. One additional reference under that binomial is Annobon (397).

Pseudolithophyllum orbiculatum (Foslie) Lemoine

See *Lithophyllum orbiculatum* (Foslie) Foslie.

Pseudolithophyllum vickersiae (Lemoine) Afonso-Carrillo

See *Lithophyllum vickersiae* Lemoine. The following are additional references.

Canaries (598).

[As *Lithophyllum incrustans*]

Canaries (363).

[As *Lithophyllum vickersiae* Lemoine]

Canaries (363).

[As *Lithothamnion vickersiae* Lemoine]

Canaries (645).

Pterocladia angolensis Welwitsch mss.

Note. A diagnoses of this alga was prepared by Welwitsch but is only in manuscript. A specimen in the BM has been variously attributed to *Gelidium corneum* and *G. melanoideum* and bears the label 'Iter Benguellense' No. 73. *Pterocladia angolensis* Welw. in lit. ad Sonder. In Porto de Benguella ad Patellas freq. Conf. J. Ag. Spec. Alg. Vol. II Pt I, p. 422, June 1860, leg. Welwitsch'.

Pterocladia? benguellensis Welwitsch mss.

Note. A specimen in the BM bears the name '(*Pterocladia?*) *Benguellensis* Welw. msp.' and 'Iter Benguellense No. 75' from 'ad Patellas ab Oceano atl. ejectas prope Benguela. June 1859 leg. Dr. Welwitsch'. The specimen appears to be a species of *Gelidium*, near to *G. corneum* sensu Børgesen.

Pterocladia capillacea (S.G. Gmelin) Bornet ex Bornet & Thuret

Canaries (2;5;8;9;13;16;38D;67;68;108;128A;141A;188;226;227;237;306B;375;379;392;439;441;489;490;517;546;584;598;610;633;702;710).

Cameroun (269;288;295;337;344;350;484;586).

Cape Verde Islands (38D;100;183;598).

Côte d'Ivoire (288;350;586).

Gabon (294;350;586).

Gambia (296;350;586).

Ghana (42A;152;288;344;350;586).

Guinea-Bissau (529).

Liberia (129;288;350;586).

Mauritanie (188;344;349;529).

Salvage Islands (38B;38D;598).

Sénégal (38D;121;122;344;513;529;530)

Sierra Leone (295;350;586)

Western Sahara (349;529)

'... Atlantico de Noruega a Canarias' (17)

'... Atlantique (de l'Angleterre au Rio de Oro). . .' (33).

'... Atlantique nord (de l'Angleterre a la Mauritanie). . .' (188).

'... Atlantique nord: jusq'au Rio de Oro. . .' (222).

'De Norvège aux Canaries. . .' (89).

'... from boreal-antiboreal to tropical seas' (350;586).

'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).

'Tropical Africa (N. Gambia – Congo river)' (598).

'Widespread in temperate seas, extending into the subtropics' (712).

[As *Gelidium capillaceum* Kützing, or (Gmelin) Kützing]

Canaries (387).

Cape Verde Islands (38;483).

'... De Norvège aux Canaries. . .' (38).

[As *Gelidium corneum* (Hudson) Lamouroux var. *capillaceum* (Gmelin) C. Agardh]

Canaries (401).

[As *Gelidium corneum* (Hudson) Lamouroux var. *pinnatum* (Hudson) Montagne]

Canaries (401).

[As *Pterocladia capillacea* Bornet]

Canaries (547).

Salvage Islands (215).

[As *Pterocladia capillacea* (Gmelin) Bornet]

Canaries (191;441;499).

Cape Verde Islands (499).

'Nordwestafrika' (499).

[As *Pterocladia capillacea* f. *densa* auct]

Sénégal (121).

[As *Pterocladia capillacea* f. *pinnata* (Hudson)]

Canaries (390;441).

[As *Pterocladia capillacea* (Hudson) Bornet & f. *pinnata* (Hudson)]

[As *Pterocladia pinnata* (Hudson) Papenfuss]

Canaries (303).

Cape Verde Islands (423).

Cameroun (337;537).

[As *Pterosiphonia capillacea*]

Gabon (294).

Note. According to Stewart (1968), *Pterocladia capillacea* reported from the Canaries is conspecific with *P. pyramidale*, *P. complanata*, *P. mexicana*, *P. robusta*, *P. okamurai* f. *okamurai*, and *P. okamurai* f. *densa*, *P. tenuis* and *P. densa* from the Pacific. Prud'homme van Reine et al. (663) state that Piccone's specimens should have been named *Gelidium arbuscula* Bory ex Børgesen.

Pterocladia lucida (Turner) J. Agardh

[As *Pterocladia lucida* R. Brown]

St Helena (142;260;391).

[As *Pterocladia lucida* (R. Brown) J. Agardh]

St Helena (644;704).

Note. Considerable uncertainty surrounds the identity of this material. Akatsuka (1986) divided the species into two groups based on the morphology of surface cells and the shape of the tetrasporangial pinnules. One group was related to all other members of the genus whereas the other was considered sufficiently distinct to warrant the creation of the genus *Pterocladiastrum*. Without further examination of the minute St Helena plants it is not clear to which group to attach them to.

Pterocladia melanoidea (Schousboe ex Bornet) Dawson

Canaries (633;634;710).

Sénégal (710).

Pterocladia pinnata (Hudson) Papenfuss

See *Pterocladia capillacea* (S.G. Gmelin) Bornet ex Bornet & Thuret.

Pterocladia sp.

Canaries (5).
Ghana (299;376).
Sénégal (529).

Pterosiphonia Falkenberg

For comments upon generic relationships in *Pterosiphonia*, *Tayloriella*, *Symphyocladia* and *Acrosiphoniella*, based on Pacific taxa but including relevant data, see Wynne (1985).

Pterosiphonia cloiophylla (C. Agardh) Falkenberg

Namibia (348).
[As *Pterosiphonia gloiophylla*]
Namibia (487).

Pterosiphonia complanata (Clemente) Falkenberg

Congo (350;586).
Mauritanie (33;349;529).
Western Sahara (476).
'... am der africanischen Nordwestküste. . .' (179).
'... Atlantique (de l'Angleterre a la Mauritanie)' (33).
'... Atlantique nord, jusqu'en Mauritanie. . .' (222).
'British Isles to Mauritania' (711).
'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).
[As *Polysiphonia complanata* J. Agardh]
Congo (Loango) (249;250).
Note. Hariot's doubtful record for Congo was given incorrectly in 350 as Gabon.

Pterosiphonia gloiophylla (C. Agardh) Falkenberg

See *Pterosiphonia cloiophylla* (C. Agardh) Falkenberg.

Pterosiphonia parasitica (Hudson) Falkenberg

Angola (352).
'... [Africa] north of the Gulf of Guinea. . .' (but not within the Gulf of Guinea) (352).
'... Atlantischen Ozean. . . südwärts bis zur nordwestafrikanischen Küste. . .' (499).
[As *Pterosiphonia parasitica* Schmitz]
Canaries (238).
'... desde las costas de Francia a las islas Canarias. . .' (238).

Pterosiphonia pennata (C. Agardh) Falkenberg

Canaries (227;392;584;598;633;642).
'Subtropical Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).
'Tropical Africa (N. Gambia to Congo river)' (598).
[As *Pterosiphonia pennata* (Roth) Falkenberg]
Angola (213;352;500).
Canaries (71;108;191;334;547).
Cameroun (337;350;586).
Ghana (154;213;338;344;350;537;586).
Mauritanie (349).
Nigeria (213;350;586).
Western Sahara (349).
'... Atlantique (. . . Canaries). . .' (33).
'... de la France aux Canaries' (190).
'... from the coast of France southwards to the Canary Islands. . .' (71).
'... widely distributed in the Atlantic. . . but its distribution is difficult to assess at present due to confusion between a

group of morphologically similar species.' (711).
'... widespread in warm temperate and tropical seas.' (350;586).

[As *Polysiphonia pennata* J. Agardh]
Angola (41;42).
Canaries (547).
[As *Pterosiphonia pennata* (Falkenberg) Schmitz]
Canaries (174).
[As *Pterosiphonia pennata* (Roth) Falkenberg]
Angola (500).
Canaries (213;226;303;517;546).
'... Atlantico (desde las costas de Francia a las islas Canarias). . .' (517).
'Lusit-Africano-Médit.' (529).

Pterosiphonia sp.

Angola (352).

Pterothamnion crispum (Ducluzeau) Nägeli

Canaries (699).
Note. See notes under *Pterothamnion plumula* (Ellis) Nägeli.

Pterothamnion plumula (Ellis) Nägeli

Canaries (598).
[As *Antithamnion plumula* (Ellis) Thuret]
'... Atlantique (de la Norvege aux Canaries. . .)' (33).
'... Atlantique: des côtes anglaises jusqu'au Maroc et Canaries. . .' (222).
'... Atlantischer ozean, von den skandinavischen Küsten bis zum Kap der Guten Hoffnung. . .' (499).
'... Atlantischer ozean von den skandinavischen Küsten südwärts bis zum Kap' (497).
'Nordwestafrika' (499).
[As *Antithamnion plumula* Thuret]
Canaries (236).
Note. Gayral (222) recognized *Pterothamnion plumula* var. *crispum* (Ducluzeau) Hauck which Athanasiadis (1990) and Maggs & Hommersand (711) call *P. crispum* (Ducluzeau) Nägeli. See Schneider & Searles (642) for confusion with *Antithamnionella elegans* (Berthold) Price & D. John. For discussion on the recognition of the genus *Pterothamnion*, see Athanasiadis & Kraft (1994) who comment: 'Comparative studies of the type and other species of the genera *Pterothamnion* Nägeli, *Platythamnion* J. Agardh and *Glandothamnium* Wollaston state the recognition of a single genus *Pterothamnion*. . .'

Ptilota gunneri Silva, Maggs & L. Irvine

[As *Ptilota plumosa* (Hudson) C. Agardh]
Canaries (71?;90;227?;401).
[As *Ptilota plumosa* C. Agardh]
Canaries (44).

Note. Montagne (401) stated: 'Nous ne citons cette espèce, qui ne se trouve pas dans notre collection, que d'après l'autorité de M. Bory qui l'énumère parmi les Thalassiophytes des Canaries'. The Benítez (44) record is taken from Montagne (401). Børgesen (71) believed that the record is referable to *Spyridia aculeata* (Schimper) Kützing, and Gil-Rodríguez & Afonso-Carrillo (227) repeat Bory's record mentioning Børgesen's doubt.

Ptilota plumosa (Hudson) C. Agardh

See *Ptilota gunneri* Silva et al.

Ptilothamnion micropterum (Montagne) Bornet

Canaries (65;71;109;133;401;492;495).
'... ad insulas canarias. . .' (133).
[As *Callithamnion micropterum* Montagne]
Canaries (27;89;109;318;320;402;407).
[As *Callithamnion micropterum* (Montagne) Montagne]
Canaries (24;320;407).

[As *Callithamnion pluma* (Dillwyn) C. Agardh var. *micropterum* Montagne]

Canaries (109;171;401).

[As *Ptilothamnion micropterum* Bornet (*Callithamnion*) Montagne]

Canaries (492).

Note. Boudouresque et al. (1984) synonymize *P. micropterum* with *P. pluma*, but Schiffner (1931) regarded the former as a good species strongly differentiated from *P. pluma*. See also comments under *Ptilothamnion pluma* (Dillwyn) Thuret.

***Ptilothamnion pluma* (Dillwyn) Thuret**

Canaries (38B;71;190;191;226;227;303;584;598;698;711).

Salvage Islands (38B;598).

' . . . Atlantique (de l'Angleterre aux Canaries) . . . ' (33;196).

' . . . North Sea southwards to the Canary Islands' (71).

[As *Callithamnion pluma* C. Agardh]

Canaries (44;401).

Note. In a discussion of the genus *Ptilothamnion*, Dixon (171) pointed out that Feldmann & Feldmann (188) and Feldmann (190) question the status of *P. micropterum* (Montagne) Bornet. A figure in Feldmann (190) shows a prostrate axis of several fronds, some with entirely simple, others with a proportion of bifid laterals. As this was the previous basis for distinction between the two species, the

implication would be that *P. micropterum* could be regarded as a synonym of *P. pluma*. Further examination of the type materials revealed fronds of various types on both species, even though Kützing's illustration (320: pl. 1) of Montagne's original *Callithamnion micropterum* showed no second order laterals. Bifid laterals are probably more frequent in specimens from the Mediterranean and Canaries than from the British Isles but the wide variation found in all localities does not justify taxonomic discrimination on this basis. Dixon (171) concluded that *P. pluma*, *P. micropterum*, and possibly *P. lucifugum* should be regarded as a single species under the name *Ptilothamnion pluma* (Dillwyn) Thuret.

***Pycnothamnion crustaceum* P. Dangeard**

Sénégal (122).

'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).

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